

REMARKS/ARGUMENTS

The Office Action states that claims 1-23 are provisionally rejected under 35 U.S. § 101 as claiming the same invention as that of claims 1-23 of co-pending Application No. 10/643,672 ('672 Application). The pending claims, however, are distinct from those in the '672 Application. On October 16, 2006, Counsel for Applicants discussed the matter with Mr. Shelby Pittman of the Patent and Trademark Office's Publications Division. Counsel explained to Mr. Pittman that the claims for the present Application were accidentally published as those of the '672 Application. Mr. Pittman agreed that there was a publication error. Pursuant to instructions from Mr. Pittman, Applicants filed a Request for Republication regarding the '672 Application on October 16, 2006. Evidence of the filing is presently available on the PTO's PAIR System. While the PTO is processing the Request for Republication, Applicants respectfully request that the Examiner examine the present Application and remove the 35 U.S.C. § 101 rejection in light of what is readily seen as a material mistake committed by the U.S. Patent and Trademark Office. The mistake is apparent from the PTO records.

The Office Action states that the Specification does not contain a summary of the invention as required by M.P.E.P. § 608.01(a). The Application has been amended to contain a "Summary of the Invention" section. Accordingly, Applicants respectfully traverse the objection.

Claims 9-11, 13-16 and 18 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Apparently in response to claim amendments made in a Reply to Office Action dated June 20, 2006, the Office Action states that the Examiner failed to find support in the Specification for the "partitioning related to fuzzy logic" subject matter of the amendments. Office Action, page 3. However, any amendments to the claims regarding partitioning related to fuzzy logic are fully supported by the originally filed Application. Consequently, the amendments regarding fuzzy logic do not constitute new matter. For example, support for partitioning related to fuzzy logic exists in originally filed claim 1. In addition, partitioning related to fuzzy logic is discussed at length in at least the following sections of the Application: page 4, lines 16-18; page 12, lines 6-13; and Fig. 4B. Thus, the limitations based on partitioning related to fuzzy logic should be evaluated as they do not constitute new matter.

Claims 7-9, 13, 15, 19, 21-23 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action states that the terms “similar” and “similarity” are relative and consequently render the subject claims indefinite. However, according to the M.P.E.P. § 2173.02, definiteness of claims under 35 U.S.C. § 112 must be analyzed, not in a vacuum, but in light of two elements: (1) “the content of the particular application disclosure” and (2) “teachings of the prior art.” Each element is addressed below.

Regarding the “the content of the particular application disclosure” under M.P.E.P. § 2173.02, the terms “similar” and “similarity” are addressed at length and with clarity in the Applicants’ original disclosure. The Specification repeatedly relates “similarity” and, for example, fuzzy distances. More specifically, the Specification states “when answering *similarity* queries, the binary tree 65 may utilize pre-computed distances between reference data points of a query object and reference points at a node at a certain level in the distance-based index structure of the binary tree 65 using fuzzy logic, in one embodiment.” Specification, p. 4, lines 7-11. Regarding similarity thresholds, the Specification adds “[u]sing a first *similarity* threshold, images in image database 60 may be partitioned into dual portions...a first similarity threshold may be selected to be 0.5, in one embodiment of the present invention.” Specification, p. 12, lines 12-16. The original Specification also states “[i]n accordance with the algorithm, a $N \times N$ *similarity* matrix S representing fuzzy distances may be constructed, where $S(i,j) = [1 + \text{distance}(i,j)]^{-1}$ ”, thereby relating similarity with distance. Specification, p. 14, lines 3-4. Regarding “maximum similarity” the Specification describes, for example, a method including determine “whether the current comparison provides a maximum similarity measure distance relative to the other sets in the partitioned image database 60.” Specification, p. 13, lines 7-9. Further still, the Application provides a specific formula that addresses the distance between two images. Specification, p. 13, lines 19-21. In short, there are numerous passages relating “similarity” to fuzzy logic distances. These passages, and the related claims, clearly relate similarity and distance—a concept a person of ordinary skill in the art would readily understand. Regarding the “teachings of the prior art” under M.P.E.P. § 2173.02, Applicants respectfully note that “similar” and “similarity” are used throughout the Jane reference (e.g., claim 3)—a reference the Examiner asserts constitutes prior art. Accordingly, the claimed terms “similar” and “similarity” are definite and therefore, the §112 rejection is overcome for these claims.

The Office Action states that claims 1-23 are rejected under 35 U.S.C. § 101 for non-statutory subject matter. Claim 1 has been amended to state “outputting the at least one image similar to the query object image”—a useful, concrete and tangible result. Claim 9 recites “outputting at least a portion of the solution set” wherein the solution set has an image or images with a maximum similarity to the query image—again, a useful, concrete and tangible result. Claim 19 has been amended to recite “memory containing instructions” that “when executed” enable the system to perform a task and “a processor coupled to the ... memory to execute the instructions.” See *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility*, p. 53 (stating “claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory”). Amended claim 19 also states memory to execute the instructions “to output the at least one image similar to the query object image.” Once more, a useful, concrete and tangible result. Thus, each independent claim concerns a useful, concrete and tangible result. For the above reasons, the § 101 rejection is overcome for claims 1, 9, and 19 and their dependent claims. For at least the same reasons, the § 101 rejection is overcome for claim 15 and its dependent claims.

The Office Action states that claims 1-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,121,969 (Jain). Jain discloses a method that commences by selecting criteria. A machine then searches and orders the object records in accordance with the criteria. The results are preferably displayed in a 3-dimensional plot. Col. 11, lines 7-20. However, claim 1 has been amended and states “*after* partitioning the first partition into the at least two portions, using fuzzy logic to search the database ...” If Jain performs any partitioning at all, it does so only after a search has already been conducted at great computational expense. In short, claim 1 partitions then searches while Jain searches then allegedly partitions. This fundamental difference highlights the computational efficiencies of the Applicants’ invention—efficiencies not associated with Jain. For at least these reasons, claim 1 and its dependent claims are allowable over the cited reference.

Claim 9 states “after partitioning the database into the plurality of sets, searching the database for a solution set having a maximum similarity to the query image using the fuzzy logic.” Again, if Jain performs any partitioning at all, it does so only after a search has already


been conducted at great computational expense. For at least these reasons, claim 9 and its dependent claims are allowable over the cited reference.

For at least the same reasons stated above, claims 15 and 19 and their dependent claims are also allowable over Jain.

In view of these remarks, the application is now in condition for allowance and the Examiner's prompt action in accordance therewith is respectfully requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504.

Respectfully submitted,

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